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MUSEUM OF PRACTICAL GEOLOGY.

Metropolitan School of Science applied to Mining
and the Arts.

DEPARTMENT OF THE BOARD OF TRADE.

ON
THE EDUCATIONAL USES
OF
MUSEUMS.

(BEING THE INTRODUCTORY LECTURE OF THE SESSION 1853-1854.)

BY
EDWARD FORBES, F.R.S., &c.



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1853.

Metropolitan School of Science applied to training

ON THE EDUCATIONAL USES

OF

MUSEUMS.

THE third Session of the Government School of Science applied to Mining and the Arts commences to-day. The Director and my Colleagues have assigned to me this year the duty of opening the courses. I shall avail myself of this opportunity to offer some remarks upon the leading and characteristic features of the Institution, considered as an educational Museum, and to make some observations upon the instructional uses to which Museums may be advantageously applied.

The school of applied sciences here established is the only instance in Britain of an organized instructional institution arising out of a Museum, and being maintained in strict connexion and relation with its origin. This is not an accident, but an event contemplated from the commencement of the Geological Survey. It is an experiment on a considerable scale with a greater purpose,—for, with a limited though rapidly improving machinery, it is intended to advance educational aims that have a vital importance in their bearing on the future prospects of this country. It is an endeavour by a State-mechanism to cast the seeds of science over the broad fields of British Industry,—not indiscriminately, but especially in those places where there is a good soil thirsting for their germination. We who are appointed to be cultivators have a responsible duty and a noble task. We have firm faith in the dignity of our work, and in the certainty of good results arising from it. This must be our reward; and with it we are

content, as long as we can, to labour patiently and earnestly to the best of our endeavours,—hopeful of the approbation and co-operation not only of our fellow-labourers in science, but also of all intelligent and patriotic Britons.

The results so far of the teaching here have been in the main highly satisfactory. With the close of last session terminated the two years curriculum of the students who entered the Government School of Mines in 1851. Since their studies are now completed, I may speak of the men in the language not of compliment, for of that there is no necessity, but of unmingled praise. I can say this not only for myself but for all my colleagues; and we have the delightful satisfaction of anticipating a distinguished scientific and practical career for those who were lately our pupils, and whom now we number among esteemed friends. Their services are sure to be appreciated and anxiously sought for; and already we have had the pleasure of congratulating some of them on the obtainment of highly valuable and honourable posts, for which they had become qualified within these walls.

With equal satisfaction we can refer to the department of our lectures devoted to the instruction of working men. The artisans of London have eagerly and admirably responded to the opportunity so freely offered to them by Government in this Institution. They have crowded to our theatre and attended our courses with unmistakeable earnestness and intelligence. To address the audience, composed exclusively of working men assembled on these benches on Monday evenings has been a privilege and a pleasure to all of us.

The peculiar advantages which we have held out to officers of the public service, especially to officers of the army and navy have not been neglected by the class for whom they were intended. At the same time, it was expected that more use would have been made of them. It is difficult, doubtless, for gentlemen whose duties command so much of their time, to make days and hours suit their convenience. Those who entered our classes, have been among the most diligent of students. The majority have come to us from the East India Company's service, chiefly officers of engineers and medical

officers. Much might be done for the advancement of science by naval and military men when on service abroad, and much is being done by them every day, as the Transactions of learned societies can amply testify. An occasional course of study in one or more of the sciences taught here would enable many a soldier and sailor to occupy vacant hours with pleasure and advantage, and possibly with benefit to the general advancement of knowledge. During the time when I had the honour of assisting on board one of Her Majesty's surveying ships, I witnessed the happiness and profit that resulted from the pleasure taken by a corps of naval officers in scientific pursuits.

It was supposed that opportunities for scientific instruction such as are here afforded would have been appreciated by intelligent persons among the middle and higher ranks, having time at command. With the exception of a chosen few, the anticipation has proved fallacious. Possibly the occult science of table-turning, which in these days seems to occupy the place filled by astrology in days of yore, has too seriously occupied their thoughts to permit of chemical, physical, geological, or biological studies. In London there are several institutions of high character, that offer, at reasonable cost, scientific instruction to the so-called "educated" classes; yet if the numbers of all, young and old, who avail themselves of the chances that are placed within their reach were to be summed up, scanty indeed would the proportion appear who appreciate as compared with the vast majority who neglect the opportunity. Need we wonder then at the success of popular follies and absurdities among persons to whom, if we applied the epithet "unenlightened," we should give mortal offence? There is, indeed, no stronger argument in favour of the State taking the initiative in scientific instruction of the kind given here than the fact, that the classes of the people who cannot afford to pay high fees, or come to learn during the hours of the day, are anxious and thankful for it; whilst those who ought to support deserving institutions of private foundation have yet to be imbued with a taste for natural knowledge, before they will do that which should be at once a duty and a pleasure.

This year our resources, though still too limited, have been considerably extended, and an important and indispensable want supplied, through the institution of a lectureship of Applied Mechanics. It is with feelings of exultation that I venture to allude to the manner in which this new post has been filled. The accession to our corps of so eminent a philosopher as Professor Willis is an honour deeply appreciated by all of us. In him we feel that we have acquired a new source of strength, whose value cannot be too highly reckoned. We feel, too, that in the world of science, and in the world of mechanical industry, the approbation of the appointment is universal.

In the presence of Dr. Hofmann, who though appointed to the lectureship on Chemistry, and in charge of the Laboratory since the conclusion of last session, has sat with us and served amongst us for some time, I will not—I need not—enter on any eulogium of his distinguished merits. To have secured the services of one of the most eminent of European chemists, for the post until lately so ably filled by Dr. Lyon Playfair, is as great a satisfaction to ourselves, as it will be a guarantee of good work to the public. His predecessor has left us for a post of heavy responsibility and inestimable importance,—one on the conduct of which the success of government institutions for scientific education will in a great measure depend. He has left us with our warmest wishes for his success and our firmest confidence in his ability, energy, earnestness and truthfulness. But though no longer holding a professorial post here, we retain the benefit of his advice and counsel, since he still remains connected with our institution, and sits with us as a member of our Educational Committee.

We commence the session—so far as the class of students of most consequence, viz, the matriculated class, is concerned—under peculiarly favourable auspices. The number of entries is greater at this early stage of the courses than during either of the former years. Considering how difficult it is in our country for any establishment on a new plan to make way for this evidence of progress may be taken as a fair subject for congratulation.

The object of the Museum in which we are now assembled is mainly the illustration of the mineral constitution and products of the British islands, and to some extent of the British colonies. This purpose, whether we consider the great benefit derived from mineral wealth by our nation at large, the vast capital invested in the search after and application of mineral resources, or the light thrown upon science under its nobler and less profitable forms, cannot but be esteemed a worthy one. To carry it out effectively would require more than double the space here assigned to it, and powers of speedy and comprehensive action such as are not usually conferred upon the managers of State institutions. The purpose of the place in some of its branches is more or less fully presented, but in others is barely sketched or rather indicated. The applications of mineral products to the various useful and ornamental arts are so numerous, that, except in a few principal instances, it would be folly to attempt their illustration within our confined boundaries. Consequently, in a purely industrial direction our display is sketchy and partial. That a collection fully and judiciously illustrating the arts that spring from the world of minerals, treated with equal regard to their present extension and past history, to their excellencies, capabilities, and defects, would be in the highest degree instructive and beneficial, if employed in the illustration of well-devised courses of instruction, there cannot be a doubt or question. If ever such a collection be formed, this institution may fairly claim the credit of its paternity.

In one of its departments this Museum aims at more amplitude; and even proceeding at our present somewhat tardy pace—inevitably so, as we are situated,—must in the end attain, or at least nearly approach, completeness. I allude to that devoted to the illustration of the geological structure of the British islands. You are aware that we are here an establishment in intimate connexion with, and many of us officers of, the Geological Survey of the United Kingdom. Perhaps the most distinctive feature of this Museum is, that it is the visible evidence of the bearings and progress of that survey. When the officers of the Royal Engineers have performed their duty

as topographers, and given to the public the admirable and invaluable maps issued by the Ordnance, then the members of the corps of Government geologists go over the ground anew with the distinct and important office of delineating its mineral structure. On electrotypes casts of the original Ordnance plates, the new lines traced by the officers in charge of the geology are laid down, and the new map so constituted is issued to the public at an expense corresponding to the cost of fresh work and colouring. My colleagues in the field to whom these labours are assigned are engaged on a laborious task, requiring judgment, skill, training, and high scientific acquirements. Theirs, no more than ours, in this museum and school, are not mere duties of routine, office, clerkship, or limited hours. There is no off-duty; the head must work whilst the eyes are open if our task is to be well and thoroughly done.

Whilst the collections here displayed are mainly confined to the mineral products of the British islands, there is one department in this building, represented at present by 3 or 4 wall-cases, that I cannot refer to without the deepest interest, insignificant though it may now seem. I allude to that of Colonial Geology. The idea of it is to exhibit the mineral products of each of our colonies separately, the evidences of their geological constitution, and the indications of their mineral wealth. Such a display would be more than a curious and interesting illustration of the products of those countries for the benefit of persons at home. It would be a source of instruction of the most vivid kind to all thoughtful men intending to emigrate,—and most emigrants are thoughtful, at least before they go. Over and over again, when working at the arrangement of the cabinets in our galleries, I have been addressed by intelligent persons of this class who have come here in the hope of meeting with a collection of the kind I have mentioned, and of passing some time in the study of it. With feelings akin to shame I have shown them our shabby though not worthless display, and endeavoured to make it the text of conversation and advice. Surely it would be worthy of a great empire like ours to possess, in the metropolis of all its

world-strewn states, some sufficient illustration of their structure and productions. I speak not merely of their mineral productions, which are all that we can aim at here, but of their works of art and industry, their natural productions of all kinds, and illustrations of their history and of their ethnology. It is true that many of these are embodied in general collections, and form an essential part of systematically arranged cabinets. But what we require is to see them distinctly grouped with regard to their geography; so that, for example, the emigrant proceeding to Australia might come and learn before he departed, and the officer ordered on duty to India or the West Indies might acquire an acquaintance with the structure and products of those countries that would enable him when there to occupy his spare time in research useful to himself and beneficial to his country. All that is required for carrying out such a collection is space. Contributors anxious and able to assist would be found in numbers. Those who have derived some benefit and knowledge from their studies in the Museum before leaving, would when abroad add judiciously and gratefully to its contents. Indeed there are at present extensive and valuable collections of colonial specimens lying useless, packed in boxes, that might be had for the asking, provided it could be shown that there was a proper place in which to arrange them for the public benefit.

Museums, of themselves alone, are powerless to educate. But they can instruct the educated, and excite a desire for knowledge in the ignorant. The labourer who spends his holiday in a walk through the British Museum, cannot fail to come away with a strong and reverential sense of the extent of knowledge possessed by his fellow-men. It is not the objects themselves that he sees there and wonders at, that make this impression, so much as the order and evident science which he cannot but recognize in the manner in which they are grouped and arranged. He learns that there is a meaning and value in every object however insignificant, and that there is a way of looking at things common and rare distinct from the regarding of them as useless, useful, or curious,—the three terms of classification in favour with the ignorant. He goes

home and thinks over it; and when a holiday in summer or Sunday's afternoon in spring tempts him with his wife and little ones to walk into the fields, he finds that he has acquired a new interest in the stones, in the flowers, in the creatures of all kinds that throng around him. He can look at them with an inquiring pleasure, and talk of them to his children with tale about things like them that he had seen ranged in order in the Museum. He has gained a new sense,—a thirst for natural knowledge, one promising to quench the thirst for beauty and vicious excitement that tortured him of old. If his intellectual capacity be limited and ordinary, he will become a better citizen and happier man; if, in his brain there be dormant power, it may waken up to make him a Watt, a Stephenson or a Miller.

It is not the ignorant only who may benefit in the way just indicated. The so-called educated are as likely to gain by a visit to a Museum, where their least cultivated faculties, those of observation, may be healthily stimulated and brought into action. The great defect of our systems of education is the neglect of the *educating* of the observing powers,—a very distinct matter, be it noted, from scientific or industrial *instruction*. It is necessary to say this, since the confounding of the two is evident in many of the documents that have been published lately on these very important subjects. Many persons seem to fancy that the elements that should constitute a sound and manly education are antagonistic,—that the cultivation of taste through purely literary studies and of reasoning through logic and mathematics, one or both, is opposed to the training in the equally important matter of observation through those sciences that are descriptive and experimental. Surely this is an error, a partizanship of the one or other method or rather department of mental training, to the exclusion of the rest, is a narrow minded and cramping view from whatsoever point it be taken. Equal development and strengthening of all are required for the constitution of the complete mind, and it is full time that we should begin to do now what we ought to have done long ago. Through the teaching of some of the sections of natural history and chemistry,—the former for observation of

forms, the latter of phenomena,—I cannot but think the end in view might be gained, even keeping out of sight altogether, if the teacher holds it best to do so, what are called practical applications. For this branch of education museums are the best text-books ; but, in order that they should be effectively studied, require to be explained by competent teachers. Herein at present lies the main difficulty concerning the introduction of the science of observation into courses of ordinary education. A grade of teachers who should be able and willing to carry science into schools for youth has hardly yet appeared. Hitherto there have been few opportunities for their normal instruction. Now, in a great measure, this defect may be considered as removed ; and in the metropolitan schools of science and art connected with the Board of Trade there are ample opportunities afforded for the acquirement of scientific knowledge in the required direction by persons who purpose to become educators.

In their instructional aspect, considered apart from their educational applications, the value of Museums must in a great measure depend on the perfection of their arrangement and the leading ideas regulating the classification of their contents. The educated youth ought, in a well-arranged museum, to be able to instruct himself in the studies of which its contents are illustrations, with facility and advantage. On the officers in charge of the institution there consequently falls a serious responsibility. It is not sufficient that they should be well versed in the department of science, antiquities, or art committed to their charge. They may be prodigies of learning, and yet utterly unfitted for their posts. They must be men mindful of the main end and purpose in view, and of the best way of communicating knowledge according to its kind, not merely to those who are already men of science, historians, or connoisseurs, but equally to those who as yet ignorant desire to learn, or in whom it is desirable that a thirst for learning should be incited. Unfortunately museums and public collections of all kinds are too often regarded by their curators in their scientific aspect only,—as subservient to the advancement of knowledge through the medium of men of science or learning, and consequently as

principally intended for the use of very few persons. This is not the main purpose for which the public money is spent on museums, though one of the very highest of their uses, and in the end of national consequence, since the surest measure of national advancement is the increase and diffusion of scientific and literary pursuits of a high grade. One of the signs of a spread of sound knowledge and intellectual tastes in a country is the abundant production of purely monographic works by its philosophers, and the evidence of their appreciation by the general mass of readers, as indicated by the facility with which they find publishers.

Very few museums present much of an industrial aspect, valuable, interesting, and popular as any arrangement or display of their contents under this point of view must evidently be. The noble invention of the Great Exhibition, a glory to the end of time around the name of one of the most enlightened princes, proved to all men the high and national interest inherent in industrial collections. It is indeed strange that amongst a people so essentially industrial in their habits, occupations, and modes of thought as the English nation, no great and comprehensive collections illustrative of their agriculture, manufactures, machinery, and sources of trade should have been formed long ago. This defect in our institutions is however, rapidly in the course of being removed; and I need not dwell upon the value of a kind of museum, of which all sensible men now understand the importance.

It has long been a subject of discussion, in what manner and to what extent can instruction by means of lectures and public teaching be advantageously associated with public collections. There are those who are opposed to such a course, holding that museums should stand on their own exclusive merits, and be mainly places of personal study and consultation. This, however, is the contemplation of them under their scientific aspect only; and though it may fairly be maintained, that a great central collection, such as the British Museum, may be rendered most serviceable by this course of action, holding that magnificent establishment as a general index for science, and, as it were, Encyclopedia of reference,—I feel convinced, after a long and earnest consideration of the question for many years, that

ness connected with systems of public teaching, museums in most instances are of little use to the people. The most useful museums are those which are made accessory to professorial instruction, and there are many such in the country, but almost all confined to purposes of professional education, and not adapted for or open to the general public. The museums of our Universities and Colleges are, for the most part, utilized in this way, but the advantages derived from them are confined to a very limited class of persons. In this Institution, an endeavour has been made to render its contents subservient to the cause of education and instruction; and the course which here taken may be imitated with advantage in the provinces, where there are not unfrequently collections of considerable extent turned to small account for the benefit of the residents, a large proportion of whom in many instances are ignorant of their very existence. Yet it is to the development of the provincial museums, that I believe we must look in the future for the extension of intellectual pursuits throughout the land, and therefore I venture to say a few words respecting what they are and what they should be.

When a naturalist goes from one country into another, his first inquiry is for local collections. He is anxious to see authentic and full cabinets of the productions of the region he is visiting. He wishes, moreover, if possible, to study them apart—not mingled up with general or miscellaneous collections,—and distinctly arranged with special reference to the region they illustrate. For all that concerns the whole world or the general affinities of objects he seeks the greatest national collections, such as the British Museum, the Jardin des Plantes, the Royal Museums at Berlin and Vienna. But that which relates to the particular country he is exploring, he expects to find either in a special department of the national museum, or in some separate establishment, the purpose of which is, in a scientific sense, patriotic and limited. So also with the students of history and antiquities; they are often disappointed, and in the end find what they require here and there, bit by bit, in the cabinets of private individuals. In like manner, when the inquirer goes from one province to another, from one county

to another, he seeks first for local collections. In almost every town of any size or consequence he finds a public museum, but how often does he find any part of that museum devoted to the illustration of the productions of the district. The very feature which of all others would give interest and value to the collection, which would render it most useful for teaching purposes, has in most instances been omitted, or so treated as to be altogether useless.

Unfortunately not a few country museums are little better than raree-shows. They contain an incongruous accumulation of things curious or supposed to be curious, heaped together in disorderly piles, or neatly spread out with ingenious disregard of their relations. The only label attached to nine specimens out of ten is, "Presented by Mr. or Mrs. So-and-so;" the object of the presentation having been either to cherish a glow of generous self-satisfaction in the bosom of the donor, or to get rid—under the semblance of doing a good action—of rubbish that had once been prized, but latterly had stood in the way. Curiosities from the South Seas, relics worthless in themselves, deriving their interest from association with persons or localities, a few badly stuffed quadrupeds, rather more birds, a stuffed snake, a skinned alligator, part of an Egyptian mummy, Indian gods, a case or two of shells, the bivalves usually single and the univalves decorticated, a sea urchin without its spines, a few common corals, the fruit of a double cocoa-nut, some mixed antiquities, partly local, partly Etruscan, partly Roman and Egyptian, and a case of minerals and miscellaneous fossils,—such is the inventory and about the scientific order of their contents. I have a vivid remembrance of going through the Cheetham collection at Manchester, and hearing the explanation of its contents by one of the boys on the foundation, when I was of small size myself. The peculiar classification that mystified sightseers thirty years ago is in too many instances still maintained.

There are, however, admirable exceptions to this censure. There are local collections arranged with skill and judgment in several of our county towns, and which at a glance tell us of the neighbourhood and activity of a few guiding and enlight-

ed men of science. It would be invidious to cite examples, and yet the principles, in each case distinct, adopted in the arrangement of those of Ipswich and Belfast ought especially to be noticed. In the former, thanks to the advice and activity of Professor Henslow, the specimens of various kinds, whether antiquarian, natural history, or industrial, are so arranged as to convey distinct notions of principles, practice, or story. In the Belfast Museum the eminent naturalists and antiquarians who have given celebrity to their town have made the contents at a glance explanatory of the geology, zoology, botany, and ancient history of the locality and neighbouring province. The museums of Manchester, York, Scarborough, and Newcastle might be cited as highly commendable likewise, thanks to the science and ability of the eminent men connected with them, or who have taken an interest in their formation. It happens, however, that the value and excellence of almost every provincial museum depend upon the energy and earnestness of one, two, or three individuals, after whose death or retirement there invariably comes a period of decline and decay. Now this should not be, and would not be were the facilities for scientific and literary instruction in the provinces greater than they are. In very few instances do we find the collections freely open to the public. In most cases they are unassisted by local or corporate funds, and dependent entirely upon the subscriptions of private individuals. Indeed, any attempt to favour the establishment of public museums and libraries through the application of local funds is opposed with a horrible vigour more worthy of a corporation among the Cannibal lands than within the British Empire. The governing bodies of too many of our towns include no small proportion of advocates of unintellectual darkness. It is not the interest of the public but that of the publican which sways, when a councillor wiser than the rest proposes in vain to inform his fellow-citizens through the agency of free museums, libraries, and gardens. This may seem a harsh and possibly a rash assurance, but I speak deliberately and with knowledge of examples. And yet, alas, the direful sway of distilleries and breweries may be excused, when we learn that in some, be it

hoped few instances, the proposition to establish public libraries by means of a small local rating has been opposed by the members of local so-called philosophical institutions, on the plea that having got what they wanted in this way for themselves they did not choose to pay a tax for the extension of these advantages to their less fortunate fellow-citizens.

In every museum of natural history, and probably in those devoted to other objects, there gradually, often rapidly, accumulates a store of duplicates that if displayed in the collection render it more difficult to be studied than if they were away altogether, occupying as they do valuable space and impeding the understanding of the relations and sequence of the objects classified. If, as is sometimes the case, they are rejected from the collection and stowed away in boxes or cellars they are still in the way, for cellarage and storage—as we know here, from the want of them, to our detriment,—are indispensable for the proper conducting of the arrangements of museums. Yet out of these duplicates, more or less perfect sets of specimens might be made up, of very high value for purposes of instruction. A well-organized system of mutual interchange and assistance would be one of the most efficient means of making museums generally valuable aids to education. Much money, when money is at the command of curators or committees, is spent in purchasing what might be obtained for asking or through exchange. Some objects of great scientific interest, but equally costly, might be purchased by one establishment only, and made fully as useful, instead of being bought in duplicate by two or more contiguous institutions. The larger institutions might supply the smaller; and out of the national stores, numerous examples—to them almost worthless, but to provincial establishments highly valuable—might be contributed with facility and greatly to the public benefit.

It is in this way, viz. by the contribution of authenticated and instructive specimens, that the museums supported by the State can most legitimately assist those established from local resources in the provinces; the scientific arrangements of the latter might also be facilitated through the aid of the officers attached to Government institutions. Money grants would do

many cases, more harm than good, destructive as they are of spirit of self-reliance, and apt to induce a looseness of expense and habits of extravagance.

At the same time, every shilling granted judiciously by the state for purposes of education and instruction, for the promotion of schools, libraries, and museums, is a seed that will in the end generate a rich crop of good citizens. Out of sound knowledge spring charity, loyalty, and patriotism—the love of our neighbours, the love of just authority, and the love of our country's good. In proportion as these virtues flourish, the weeds of idleness, viciousness, and crime perish. Out of sound knowledge will arise in time civilization and peace. At present it is vanity and self-conceit in nations to claim to be civilized, otherwise than as contrasted with savage barbarity. The admiration of physical prowess, the honouring of tinsel and pomp, the glorification of martial renown, are far too deeply inrooted yet in the spirit of the most cultivated nations to permit of the noble thought “civilized,” being appended to their names. The nobility of industry in all its grades,—first soul-work, the labour of genius—then head-work, the labour of talent,—then hand-work, the honest labour of the body striving in the cause of peace—must be honoured by state and people, before either can with truthfulness claim to be civilized. We are at best as yet but enlightened barbarians. Think how all Europe and half Asia have stood for months, and are even now standing, on the verge of foul and barbarous war; how Christian nations have armed on their armour, and, with mutual distrust and well-founded suspicion, have stood with hand on sword-hilt ready to guard or to strike; think of what is worse, of the crime and ignorance that fester in the byways of Christian cities, and then boast of civilization if you can. The arts, the sciences, taste, literature, skill, and industry seem to have thriven among us in spite of ourselves—to have come among mankind like good spirits, and by main force to have established themselves on earth. They struggle with us and conquer us for our welfare, but are not yet our rulers. Sent from Heaven, aided by the few, not by the many, they have made firm their footing. If the monarchs and presidents of the states of the earth knew

wherein the best interest of themselves and their people lay, it is in these intellectual invaders they would confide. The cost of armaments and the keep of criminals would cease in time unproductively to drain their treasuries. But ambition and strife are sturdy demons yet, and the educator, who dreams of their enchainment, and anticipates the speedy approach of a peaceful millenium, has but a limited acquaintance with the condition of mankind, and the hearts of its governors.

I cannot help hoping that the time will come when every British town even of moderate size will be able to boast—possessing public institutions for the education and instruction of its adults as well as its youthful and childish population, when it shall have a well-organized museum, wherein collections of natural bodies shall be displayed, not with regard to show or curiosity, but according to their illustration of the analogies and affinities of organized and unorganized objects, that the visitor may at a glance learn something of the laws of nature,—wherein the products of the surrounding districts animate and inanimate, shall be scientifically marshalled and their industrial applications carefully and suggestively illustrated,—wherein the memorials of the history of the neighbouring province and the races that have peopled it shall be reverently assembled and learnedly yet popularly explained; when every town shall have a library the property of the public and free open to the well-conducted reader of every class; when public walks and parks (too many as yet existing only in prospect) shall be made instructors in botany and agriculture; when it shall have a gallery of its own, possibly not boasting of the most famous pictures or statues, but nevertheless showing good examples of sound art, examples of the history and purpose of design, and, above all, the best specimens to be procured of works of genius by its own natives who have deservedly risen to fame. When that good time comes, true-hearted citizens will decorate their streets and squares with statues and memorials of the wise and worthy men and women who have adorned their province, not merely kings, statesmen, or warriors, but of philosophers, poets, men of science, physicians, philanthropists, and great workmen. He

often in travelling through our beautiful country do we not feel ashamed of its towns and cities, when we seek for their ornaments and the records of their true glories and find none? How ugly is the comparison that forces itself upon our minds between the conduct of our countrymen in this respect and that of the citizens of continental towns? A traveller need not go far through the streets of most foreign cities without seeing statues or trophies of honour, serving at once as decorations and as grateful records of the illustrious men they have produced, —reminding the old of a glorious past, and inciting by example the young to add to the fame of their native soil.

My picture may seem a dream; but I have faith sufficient in England and Englishmen to believe that in the course of time it will come to pass. Had the foresight of the present crossed the imagination of an ancient Briton, he might have hoped for its realization in another world, scarcely in this. But a simple belief in the probability of State and people advancing in intellectual aims and true civilization, and working them out through the length and breadth of the land, is essentially too wholesome and compatible with the progress of christianized human nature, not to find an embodiment in a coming reality.

London, October 1st, 1853.

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